



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,586	09/27/2004	Wen-Yi Wu	22171-00024-US1	5585
30678	7590	11/27/2006	EXAMINER	
CONNOLLY BOVE LODGE & HUTZ LLP			RIZK, SAMIR WADIE	
P.O. BOX 2207			ART UNIT	PAPER NUMBER
WILMINGTON, DE 19899-2207			2133	

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/711,586	WU ET AL.
	Examiner	Art Unit
	Sam Rizk	2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 September 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-31 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-31 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 24 September 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/27/2004, 9/9/2005</u> | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTIONS

- Claims 1-31 have been submitted for examination
- Claims 1-31 have been rejected

Duplicate Claim

1. Claim 17 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 16. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Art Unit: 2133

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1 and 11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/904,333. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the copending application no. 10/904,333 anticipates all the limitations cited in claims 1 and 11 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. Claims 2 and 12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of copending Application No. 10/904,333. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 2 of the copending application no. 10/904,333 anticipates all the limitations cited in claims 2 and 12 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. Claim 3 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 12 and 13 of copending Application No. 10/904,333. Although the conflicting claims are not identical, they are not patentably distinct from each other

because claims 12 and 13 of the copending application no. 10/904,333 anticipates all the limitations cited in claim 3 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claim 4 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 10 of copending Application No. 10/904,333. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 10 of the copending application no. 10/904,333 anticipates all the limitations cited in claim 4 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claim 15 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 21 of copending Application No. 10/904,333. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 21 of the copending application no. 10/904,333 anticipates all the limitations cited in claim 15 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 16 and 17 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 22 of copending Application No. 10/904,333. Although the conflicting claims are

not identical, they are not patentably distinct from each other because claim 22 of the copending application no. 10/904,333 anticipates all the limitations cited in claims 16 and 17 of the instant application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3,5-8,11-15,18-22, 25-27 and 29-31 are rejected under 35U.S.C. 102(e) as being anticipated by Jeon et al. US patent no. 7,058875 (Hereinafter Jeon).
9. In regard to claim 1, Jeon teaches:

- A method for decoding multiword information, comprising the steps of:

(Note: FIG. 5 and col. 3, lines (4-35) in Jeon)

- providing a multiword information cluster including high protective codewords and low protective codewords;

(Note: FIG. 5, reference characters (125) & (129) in Jeon)

- storing the low protective codewords into a first memory;

(Note: FIG. 5, reference character (124) in Jeon)

- decoding the high protective codewords so as to generate high protective word erasure indicators showing whether decoding errors occur;

(Note: FIG. 5, reference character (129) in Jeon)

- storing the high protective word erasure indicators into a second memory;

(Note: FIG. 5, reference character (126) in Jeon)

- decoding the low protective codewords read from the first memory by means of an erasure indicator read from the second memory; and

(Note: FIG. 5, reference character (125) in Jeon)

- marking an erasure indicator for decoding the low protective codewords based on the high protective word erasure indicators close to any low protective codeword in the multiword information cluster.

(Note: FIG. 5, reference character (126) in Jeon)

10. In regard to claim 2, Jeon teaches:

- The method for decoding multiword information in accordance with Claim 1, wherein the multiword information cluster is an error correction code (ECC) cluster, and the high and low

protective codewords are burst indicator subcodes (BIS) and long-distance codes (LDC), respectively.

(Note: FIG. 4 in Jeon)

11. In regard to claim 3, Jeon teaches:

- The method for decoding multiword information in accordance with Claim 1, further comprising the steps of:
 - detecting errors of synchronization codes included in the multiword information cluster so as to generate sync erasure indicators; and

(Note: FIG. 5, reference character (121) in Jeon)

- storing the sync erasure indicators into the first memory; wherein the sync erasure indicators function as the high protective word erasure indicators for generating the erasure bit while the low protective codewords are being decoded.

(Note: FIG. 5, reference character (126) in Jeon)

12. In regard to claim 5, Jeon teaches:

- The method for decoding multiword information in accordance with Claim 2, wherein the BIS codes include user control data, and the high protective word erasure indicators are determined by the user control data.

(Note: FIG. 1, reference character (User Control Data) and FIG. 5, reference character (126) in Jeon)

13. In regard to claim 6, Jeon teaches:

- The method for decoding multiword information in accordance with Claim 1, wherein the erasure bit is marked if at least one of the high protective word erasure indicators close to the low protective codewords shows an error.

(Note: FIG. 6 and col. 3, lines (23-34) in Jeon)

14. In regard to claim 7, Jeon teaches:

- The method for decoding multiword information in accordance with Claim 1, wherein the high and low protective codewords are de-interleaved before being stored into the first memory.

(Note: FIG. 5, reference characters (123) & (127) in Jeon)

15. In regard to claim 8, Jeon teaches:

- The method for decoding multiword information in accordance with Claim 1, wherein the erasure bit is determined by a flexible strategy, which is switched automatically from one to another strategy.

(Note: col. 3, lines (35-41) through col. 4, lines (1-2) in Jeon)

16. Claims 11,18 and 29 are rejected for the same reasons as per claim 1.

17. Claims 12, 25 and 30 are rejected for the same reasons as per claim 2.

18. Claims 13 and 22 are rejected for the same reasons as per claim 3.

19. Claims 14 and 21 are rejected for the same reasons as per claim 7.

20. In regard to claim 15, Jeon teaches:

- A method for decoding multiword information, comprising the steps of:

- providing a multiword information cluster including

(Note: FIG 1 in Jeon)

- synchronization codes and low protective codewords;

(Note: FIG. 1, (sync) and (BIS) cluster in Jeon)

- detecting any error flag of the synchronization codes, so as to generate sync erasure indicators;

(Note: FIG. 5, reference character (121) in Jeon)

- storing the sync erasure indicators into a memory; and

(Note: FIG. 5, reference character (126) in Jeon)

- decoding the low protective codewords by means of the sync erasure indicators.

(Note: FIG. 5, reference character (125) in Jeon)

21. In regard to claim 19, Jeon teaches:

- The apparatus for decoding multiword information in accordance with Claim 1 8, further comprising a mapping circuit coupled to the decoder and the second memory for providing localities for the high protective word erasure indicators.

(Note: col. 2, lines (59-67) through col. 3, lines (1-3) in Jeon)

22. In regard to claim 20, Jeon teaches:

- The apparatus for decoding multiword information in accordance with Claim 1 8, wherein the decoder is further employed to decode the low protective codeword by means of the erasure bit.

(Note: FIG. 5, reference character (125) in Jeon)

23. In regard to claim 26, Jeon teaches:

- The apparatus for decoding multiword information in accordance with Claim 18, wherein the first memory is a DRAM.

(Note: FIG. 5, reference character (124) in Jeon)

24. Claims 27 and 31 are rejected for the same reasons as per claim 26.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
25. Claim 4, 9,10,16,17,23,24 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeon as applied to claim 2 above, and further in view of Mori et al US patent no. 7055082 (Hereinafter Mori).

Art Unit: 2133

26. In regard to claim 4, Jeon substantially teaches all the limitations in claim 2.

However, Jeon does not teach:

- The method for decoding multiword information in accordance with Claim 2, wherein the BIS codes include address field information, and the high protective word erasure indicators are determined by decoding errors or address comparison faults of the address field information.

Mori in an analogous art that teaches BIS/LDC/ID corrector regarding an optical disc error correction coding teaches:

- The method for decoding multiword information in accordance with Claim 2, wherein the BIS codes include address field information, and the high protective word erasure indicators are determined by decoding errors or address comparison faults of the address field information.

(Note: Fig. 27, reference character (161) and col. 37, lines (16-45) in Mori)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Jeon with the teaching of Mori to include the details of BIS codes that includes the address field information, user control and the high protective word erasure indicators are determined by decoding errors or address comparison faults of the address field information.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized the need to detect and correct errors in all LDC data blocks in a physical cluster the might be caused by scratches, finger prints etc.

27. In regard to claim 9, Mori teaches:

- The method for decoding multiword information in accordance with Claim 1 wherein the second memory is initialized before a new multiword information cluster is decoded.

(Note: FIG. 37, reference characters (152) & (151) in Mori)

28. Claims 10 and 28 are rejected for the same reasons as per claim 9.

29. Claims 16, 17 and 23 are rejected for the same reasons as per claim 4.

30. In regard to claim 24, Mori teaches:

- The apparatus for decoding multiword information in accordance with Claim 23, further comprising:
 - an address field decoder connected to the address field and user control data mapping circuit for decoding the address field information.

(Note: FIG. 35, reference character (105) in Mori)

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2133

- Kahlman US publication 2003/0208714 teaches Method for encoding multiword information by wordwise interleaving and wordwise error protection with error locative clues derived from synchronizing channel bit groups and directed to target words, a method for decoding such information, a device for encoding and/or decoding such information, and a carrier provided with such information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decay can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2133

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

Sam Rizk, MSEE, ABD

Examiner

ART UNIT 2133

11/21/06

ALBERT DECADY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100